1. Objections to the Specification

The Examiner has objected to the abstract of the disclosure because it comprises the words "comprises", "comprising" and "comprise" which are alleged by the Examiner to be legal phraseology. Applicants respectfully disagree but have amended the Abstract in order to advance prosecution. Withdrawal of the objection is earnestly requested.

2. Claim Rejections Under 35 U.S.C. §103(a)

Claims 1-4, 8, and 10-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,953,204 to Suhara et al. in view of U.S. Patent No. 4,820,599 to Furukawa et al. Claims 5-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,953,204 to Suhara et al. in view of U.S. Patent No. 4,820,599 to Furukawa et al and further in view of U.S. Patent No. 6,031,711 to Tennent et al.

The pending claims are directed to an asymmetric capacitor comprising a positive electrode, a negative electrode, an electrolyte and a separator plate. The positive electrode comprises a current collector and an active material selected from the group consisting of manganese dioxide, silver oxide, iron sulfide and mixtures thereof. The negative electrode comprises a carbonaceous active material and optional current collector. The specification of the pending application teaches that the positive electrode must have a low degreee of polarization and the negative electrode must have a high degree of polarizablility (page 6, lines 11-25).

In contrast, Suhara et al. disclose an electric double layer capacitor having a positive electrode, a negative electrode and a nonaqueous electrolyte. The positive electrode has a current collector combined with a polarizable electrode material composed mainly of activated carbon. The negative electrode has a current collector made of a porous metal incapable of forming an alloy with lithium and a carbonaceous material having lithium ions occluded to a carbon material capable of occluding and releasing lithium ions. Suhara et al. further state that "two types of electrodes are used, which are different from each other in the types of ions to be adsorbed or occluded therein" (Col. 2, lines 53-55; empahsis added).

Thus, it is clear to one of ordinary skill in the art that both the positive and negative electrodes of Suhara et al. are electrodes with a high degree of polarizability.

Furukawa et al. disclose a rechargeable non-aqueous secondary cell (i.e. a battery cell) comprising a positive electrode having a rechargeable active material as a main component, a negative electrode, a separator and a non-aqueous electrolyte (Abstract and Col. 2, lines 28-29). The active material may comprise manganese oxide (Col. 2, lines 36-37). The Examiner has stated

> It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Suhara capacitor as taught by Furukawa to have a positive electrode having an active material of manganese dioxide because manganese dioxide has a low degree of polarization and remain essentially uncharged during both charge and discharge processes. (Paper 6, page 5)

Applicants respectfully disagree.

Suhara et al. repeatedly emphasize that the positive electrode is a polarizable electrode and that the positive electrode is "made of polarizable electrode material" (Col. 3, lines 34-35). Suhara et al. do not teach or suggest employing a positive electrode with a low degree of polarizability. In fact, both electrodes of Suhara et al. employ carbon, which is highly polarizable. The Examiner has cited Furukawa et al for its teaching of a positive electrode comprising manganese dioxide, a minimally polarizable material. However, there is no suggestion in either Suhara et al or in Furukawa et al. to make this combination. When, as here, the Section 103 rejection was based on selective combination of the prior art references to allegedly render a subsequent invention obvious, "there must be some reason for the combination other than the hind sight gleaned from the invention itself." *Id.* Stated in another way, "[i]t is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." *In re Fritch* 23 U.S.P.Q.2d 1780, 1784 (Fed. Cir. 1992). Because neither Surhara or Furukawa teach or suggest the combination of a positive electrode with low polarizability and a negative electrode with high polarizability the claimed invention is non-obvious.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by the Applicants' attorneys.

Respectfully submitted,

LIPKA ET AL.

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A marked-up version of the Abstract follows:

ABSTRACT

An asymmetric supercapacitor ~~comprises~~ has a positive electrode ~~comprising~~ having a current collector an active material selected from the group ~~consisting~~ having of manganese dioxide, silver oxide, iron sulfide and mixtures thereof, a negative electrode comprising a carbonaceous active material carbon and optional current collector, an electrolyte, and a separator plate. In a preferred embodiment at least one of the electrodes ~~comprises~~ has nanostructured/nanofibrous material and in a more preferred embodiment, both electrodes ~~comprise~~ have nanostructured/nanfibrous material. The electrolyte can be liquid or solid although liquid electrolytes are preferred.

The asymmetric supercapacitor has improved energy density by electrically coupling an electrode of high faradaic capacity such as one ~~comprising~~ having manganese oxide (MnO_2) with an electrode such as carbon that stores charge through charge separation at the electric double-layer. The asymmetric supercapacitor also improves power density by using high surface area nanostructured/nanofibrous electrode materials.